



AP²[™] – APsquared Sensor[™] Products

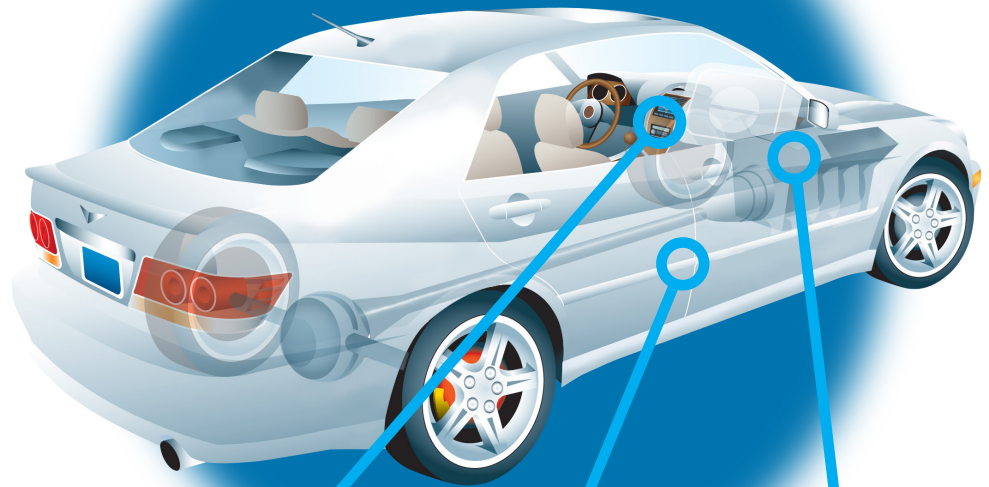
Taking Pressure Sensing to a Higher Power

✓ **Fuel-efficient**
Engines & Transmissions

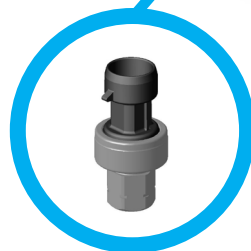
✓ **Power-conserving**
Climate Control Systems

Vehicle manufacturers face multiple challenges:

- Fuel economy
- Emissions legislation
- Alternate refrigerants
- Safety
- Comfort
- Performance
- Cost
- Reliability



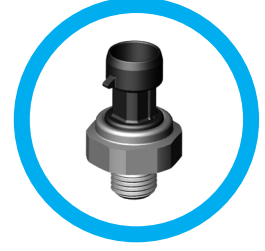
Vehicle engineers create system solutions with Sensata's AP²



A/C
Air Conditioning



FPS
Fuel Pressure
Sensor



OPS
Oil Pressure
Sensor

Features

Benefits

Square sense element	Lower cost solution; lighter weight
Flexible packaging	Available in a wider range of connectors and port fittings; 2x weight and 4x corrosion improvement
	Ease of system integration
High reliability in noisy environments; balanced circuit design	EMC protection to 200 V/m
Generation II or III conditioning electronics	Accuracy $\pm 1\%$ Vcc, temperature compensation
Ratiometric output	Ease of system integration, eliminates error in supply voltage fluctuation
Designed for under-hood environment	Operating temperature range of -40°C to 135°C ; fluid compatibility



OPS Oil Pressure Sensor

Sophisticated engine management systems like cylinder deactivation and variable flow oil pumps, along with more strenuous operating conditions, require accurate, robust Oil Pressure Sensors (OPS). Sensata's design using our AP² ceramic capacitive sense element and Gen3 ASIC meets the most stringent automotive requirements and best-in-class reliability, while being very cost effective. Sensata ships millions of units per year to many global auto manufacturers, with excellent field history. With operating temperatures and vibrations increasing, along with customers' accuracy and life expectations, Sensata's OPS has emerged as the clear leader. Pressure ports are typically brass or aluminum, and are available in a variety of threads, connectors and pressure ranges.



A/C Air Conditioning

Highly-efficient Climate Control and Thermal Management systems that enable reduced fuel/energy consumption and improved emissions require superior pressure sensing information. Sensata's AP² sensor is the low cost, lightweight solution for reliable, accurate, fast, and robust pressure sensing measurement in under-hood/body applications for engine load management, compressor protection and hybrid/electric vehicle battery protection. With an aluminum port fitting and automotive grade connector, its corrosion protection is second to none. A square sense element and conditioning electronics provide field-proven EMC tolerance and reliability performance to perform in high-noise environments. Multiple packaging configurations are available for easy system integration, including high side pressure, low side pressure, and both pressure and temperature sensing options. For customers looking to optimize Climate Control and Thermal Management strategies, the AP² sensor ensures high-quality with world-class performance.



FPS Fuel Pressure Sensor

With the demands for high precision of fuel flow to the cylinders and lower evaporative emissions, fuel pressure has become an increasingly important parameter in the control of the fuel delivery pump. Whether gas, diesel or blends, direct or port injection, return or return-less systems, a FPS is often found in today's fuel delivery systems. Sensata's AP² ceramic capacitive sense element and Gen3 ASIC offers high accuracy and reliability over life in a very demanding environment. Sensata's FPS provides our customers' Engineers design flexibility through our modular design approach. Sensata has demonstrated quality and reliability, shipping millions of units per year to vehicle manufacturers and their tier one partners around the world. Various ports, materials and connectors enable integration of the FPS onto the tank, fuel line, or filter assembly.



The World Depends on Sensors and Controls

Sensata Technologies

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